

**ABSTRACT:**

Pilot signal transmission sequences and methods for use in a multi-sector cell. Pilots in different sectors are transmitted at different known power levels. In adjacent sectors a pilot is transmitted while no pilot is transmitted in the adjoining sector. This represents transmission of a NULL pilot signal. A cell NULL is also supported in which NULL pilots are transmitted in each sector of a cell at the same time. Multiple pilot signal measurements are made. At least two channel quality indicator values are generated from measurements corresponding to at least two pilot signals of different power levels. The two values are transmitted back to the base station which uses both values to determine the transmit power required to achieve a desired SNR at the wireless terminal. The wireless terminal also reports information indicating its location to a sector boundary.